alleged "'economic depreciation rates'" underlying SWBT's cost studies are, much less how they were derived. The complete lack of support for these two crucial inputs must, by itself, be fatal to any notion that SWBT has even attempted to sustain its burden of proving that its proposed rates are appropriately costjustified.

whether SWBT's cost studies utilize forward-looking projections based on current data or merely such current data themselves. For example, while noting that "[t]he Order provides for deriving per-unit costs 'by dividing total costs associated with the element by a reasonable projection of the actual usage of the element,'" Mr. Moore appears to acknowledge that this is not what SWBT has done:

Rather than use scenarios which are dependent upon the business plans of competitors and their relative success in the marketplace, SWBT has elected to use current patterns of use until there is some actual basis to sort out which scenario is the most successful and affects fill.

Moore Affidavit at ¶ 13 (emphasis added).6 And based on my

⁶ Even more ambiguously, while Mr. Moore claims that SWBT "complies" with the applicable regulation "by apportioning the cost over a reasonable projection of the sum of the total number of units of the element that we are likely to provide," Mr. Moore (continued...)

review of SWBT's cost studies, I believe that SWBT has indeed not used current "patterns of use" and not forward-looking projections based on such patterns.

assertions as to the "projections" SWBT has allegedly made, it is clear that SWBT's cost studies violate a cardinal principle of both the Act and the Commission's Order -- i.e., that costs be forward-looking and not historical. For example, Mr. Moore acknowledges that "Common Costs were identified using SWBT's most recent historical costs as a basis for projecting its forward looking costs." Moore Affidavit at ¶ 16. Not only does this approach fail to consider whether SWBT is following efficient practices, but it also fails even to take into account the multi-year trend of reductions in overheads that SWBT has experienced -- approximately 25% per access line over the last four years. Mr. Moore makes clear that SWBT's historical costs were adjusted only "to exclude retail costs and a portion of executive,

of (...continued) asserts that "[b]ecause of the uncertainty involved in determining future demand for unbundled elements, SWBT takes the reasonable approach of utilizing recent usage figures in projecting 'the sum of the total number of units.'" Id. at ¶ 22. In this regard as well, I believe that SWBT has not made any forward-looking projections.

This trend was computed on the basis of SWBT ARMIS Reports 43-03 and 43-08 for the years 1991 through 1995.

planning, and general and administrative costs which arguably could be attributed to retail costs." Id.

VII. AT&T HAS BEEN UNABLE TO OBTAIN ADEQUATE COST STUDY DOCUMENTATION FROM SWBT

- 25. In my view, the foregoing demonstrates that what Mr. Moore has presented to the Commission is totally inadequate to sustain SWBT's burden of proof regarding its proposed rates. Beyond that, based on AT&T's limited access to SWBT's Oklahoma cost studies, and its analysis of their inputs and methodologies, SWBT's proposed rates could not possibly be justified on a cost basis, much less on the basis of forward-looking costs as required by the Act and Order.
- 26. As of the close of the record in the Oklahoma arbitration proceedings, SWBT had not provided cost studies for:
- (1) Operator Systems & Directory Assistance; (2) Transport;
- (3) Network Interface Device; and (4) Operations Support Systems. To date, to the best of my knowledge, SWBT has still not provided TELRIC cost studies for any of these items in Oklahoma. SWBT has also not provided TELRIC cost studies for E911 and Advanced Intelligent Network. Moreover, the cost studies that AT&T was able to obtain in Oklahoma were inadequately documented and, therefore, unverifiable.

- 27. As noted above, in its Order, the Commission recognized that ILECs have greater access to cost information and thus ruled that the burden of proving the nature and magnitude of any forward-looking costs sought to recover in prices of interconnection and unbundled elements is on these incumbent carriers. The Commission also recognized the importance of the incumbent carriers providing cost studies that can be reviewed and verified by all affected parties, as well as the state commissions. Id. at ¶ 155. SWBT barely even attempted to provide verifiable cost studies to AT&T in Oklahoma.
- 28. Obtaining adequate cost study documentation from SWBT in Oklahoma was an arduous task. AT&T formally requested cost studies from SWBT on July 29, 1996 at the outset of their negotiations. Yet, notwithstanding that AT&T had signed the terms of a protective order insisted upon by SWBT, SWBT failed to respond to AT&T's request until August 21, 1996, when SWBT made available for inspection at its Oklahoma City offices the results of some 29 cost studies and allegedly highly sensitive confidential answers to certain of AT&T's requests for information. Moreover, what SWBT produced on that date, although shrouded in secrecy, consisted of a scant 264 pages in hard copy with an almost complete absence of supporting documentation. Not until September 9, 1996, did SWBT produce responses to additional requests for information, as well as cost study results relied

upon by its cost witnesses. And not until September 18, 1996, less than two weeks before AT&T's rebuttal testimony was due, did SWBT produce the actual "studies" that allegedly support its rates.

Based on the review my colleagues and I were able to 29. complete prior to the time my written testimony was due in the Oklahoma arbitration, I identified a number of defects in SWBT's studies. For example, SWBT included dollar amounts of "investment" as the starting points of cost studies, with no information provided as to the source or development of the Indeed, in some cases, the only values that were produced were the bottom line "incremental costs" generated from other studies, which were not produced by SWBT. numerous calculations were made within the studies using various "factors" without any justifications, explanations or supporting workpapers. In addition, many of SWBT's cost studies incorporated other cost models, which were not themselves provided. Finally, a number of other underlying workpapers items were missing. These included SWBT's Operator Services Cost Manual, cost factors development support, sources of information used in the studies (including Minutes of Use, access lines in use, and installed access line capacity by switch), access line sample studies used in loop cost studies, and derivation of loaded labor rates.

- 30. Since the time of the arbitration case in Oklahoma I have continued to analyze SWBT's costing methodologies in other SWBT cases and states. In general, SWBT's costing methodologies across its five state region are consistent. It is my understanding and belief that the majority, if not all, of SWBT's cost studies are produced by a centralized group in St. Louis, Missouri, using practices, analytical methods, and computer programs that are similar -- indeed, in most cases, identical -- across the five-state region.
- 31. Even the cost studies produced by SWBT for other states have often lacked supporting documentation, back-up information and underlying workpapers. In the absence of such materials it has been impossible to perform a comprehensive evaluation of the studies in each state to determine how often they: (1) are based on embedded costs versus forward-looking costs; (2) use correct TELRIC methodology; (3) are based on valid and appropriate assumptions; or (4) use proper inputs and calculations. Among other things, SWBT has consistently failed to: (1) explain with specificity why and how given functions are necessary to provide network elements and how the associated costs were developed for each cost study; (2) demonstrate that it used reasonable and appropriate fill factors, depreciation lives, cost of capital, and numerous other inputs; (3) show that its studies are based on a forward-looking economic cost methodology using the most

efficient technology; (4) show that all of its current wire center locations were considered; or (5) took into consideration the entire quantity of the network elements provided.

- 32. Moreover, as AT&T has received and assimilated more information from SWBT since the Oklahoma arbitration, its concerns that SWBT's prices have not been developed in accordance with the Act have deepened. Indeed, on the basis of my current knowledge of SWBT's cost studies region-wide, and without reliance upon specific proprietary information from any state other than Oklahoma, I have confirmed that many of SWBT's studies have failed to meet the standards cited above, and I have also identified a number of significant additional methodological and computational flaws in SWBT's cost studies that serve systematically to inflate SWBT's stated costs, and hence its proposed prices, well above any reasonable estimate of TELRIC.
- 33. My analysis of SWBT's cost studies and methodologies have included the review of specific recurring and non-recurring cost studies, the development of cost factors, and SWBT's forward-looking common cost factor. I have found numerous fundamental flaws with SWBT's cost studies. 8 I will first

⁸ Although I am aware of additional flaws identified by other analysts, I only discuss here the specific flaws that I have personally identified.

discuss a number of flaws in the methodology that underlies SWBT's cost studies which double count or otherwise systematically overstate SWBT's costs, and show why certain of SWBT's costs are not forward-looking. I will then give several examples of how SWBT would impose multiple charges for what in effect are the same services or elements.

VIII. SWBT'S COST STUDIES ARE SERIOUSLY FLAWED

- A. SWBT's Cost Studies Are Based on Methodologies Which Systematically Inflate All Costs
- 34. SWBT's tandem switching cost study is based substantially on a Bellcore model called NCAT. This model relies on voluminous input data but also has several user-defined input options. As AT&T discovered in the Texas arbitration, the switching investment value inputs to NCAT come from another model called SCIS. In SWBT's network some tandem switches are combination end office and tandem switches. As a result, SCIS will report combined costs for end office and tandem switch functions to NCAT. However, all end office functions have already been captured in the end office switching elements. Hence, end office investments are double-counted.
- 35. Another systematic double-count in SWBT's cost studies occurs in SWBT's development of maintenance and support assets

cost factors. SWBT's equipment maintenance and support assets factors, which are used to determine the monthly recurring costs in SWBT's cost studies, include all expenses incurred for "rearranging and changing equipment, all SWBT's booked expenses for testing, and all of SWBT's expenses for network administration, plant operations, provisioning, engineering, and other expenses." Hence, the expenses associated with these cost categories will be recovered in total by SWBT in the recurring rates that it is proposing for UNEs purchased by new entrants. However, these same functions and there corresponding costs are also included in the non-recurring charges proposed by SWBT. Hence, these costs would be recovered twice over. I would emphasize that all of SWBT's recurring and non-recurring cost studies are affected by this phenomenon.

36. Although not strictly speaking a "double count," SWBT's signaling studies also systematically inflate SWBT's costs because they include the costs of foreign owned signal transfer points as SWBT's own. In my judgment, there is no conceivable rationale for including such foreign costs. A different, but no more justifiable methodological quirk, underlies SWBT's end office switching cost studies. In the model used, every priceout is done as though the central office will stand alone and, by itself will need all the vendor-recommended components and options, including amounts for spare components and options and

growth components and options, to ensure system reliability. This approach completely fails to recognize efficient management practices, particularly in multi-office wire centers, of maintaining a centralized common pool of spare and growth parts that can be drawn on by any central office. This approach also fails to recognize that centralized purchases of materials in large quantities will likely enable SWBT to negotiate deeper discounts than it might otherwise be able to obtain.

- B. Certain Inputs to SWBT's Cost Studies Are Historic Rather than Forward-Looking
- 37. As I noted earlier, Mr. Moore's affidavit effectively concedes that certain of SWBT's cost computations are <u>not</u> based on forward-looking data. As I will explain below, a number of other inputs to SWBT's cost models, although not mentioned by Mr. Moore, are also not forward-looking. For example, the inflation factors embedded in SWBT's cost studies are not offset by future productivity gains which have been and will remain endemic to the telecommunications industry. For this reason, this Commission as well as the state commissions have required productivity adjustments to price cap indices. SWBT's failure to make such adjustments in its inflation indices is therefore clearly unacceptable.

- 38. There are also a number of more particular examples of SWBT's reliance on embedded costs. For example, SWBT's non-recurring cost studies assuming numerous manual processes. In other words, simply because mechanized interfaces for new entrant service ordering had not been implemented at the time of the study, no attempt was made to estimate the work time that might be expected in the future for a given task. This methodological flaw clearly results in excessive work times and overstated non-recurring rates. Costs incurred in manual processes do not reflect efficient practices. The acceptance of such costs would effectively reward SWBT's failure to adopt mechanized process in accordance with this Commission's orders.
- 39. SWBT has also failed to attempt to use forward-looking projections of loop-related fill factors and the forward-looking impacts of structure sharing. Indeed, SWBT admitted in Kansas that fill factors are based on "actual" plant utilization. Yet, as at least one document that SWBT produced in the Kansas arbitration proceeding appears to confirm, "projected" fills should be higher because, in a competitive environment, SWBT will (as it should) be seeking ways to increase its long term productive efficiencies. Similarly, SWBT has included the full costs of poles and conduits in its loop cost computations, even though there will probably be multiple users of these resources in the future.

- 40. Similarly, the maintenance and other expense factors included in SWBT's cost studies represent an accumulation of numerous categories of accounting expenses that is designed to attribute, to the greatest extent possible, SWBT's 1995 embedded costs incurred by SWBT to a limited number of factors that are then used to convert an identified investment amount to an annual or monthly cost. As such, these factors represent SWBT's embedded costs, and do not represent the costs that SWBT or a new entrant would incur in a long-run, forward-looking competitive environment. Thus, they are not consistent with the TELRIC methodology adopted by the Commission.
- 41. SWBT's studies are also predicated on asset lives significantly shorter than those most recently approved by this Commission. SWBT offered virtually no justification for higher depreciation rates in Oklahoma except as part of its opposition to AT&T's Hatfield Model. However, SWBT has indicated in other states that it has relied on a 1994 study by Lawrence K. Vanston ("Vanston") to justify higher depreciation rates. Vanston suggests that early retirement of existing plant will be driven by the desire to compete in video services and to provide, among

See: Transforming The Local Exchange Network - Analyses and Forecasts of Technology Change, published by Technology Futures, Inc., Lawrence K. Vanston, 1994. Notably, the Vanston study was sponsored by the Telecommunications Technology Forecasting Group, of which SWBT is a member and of which SWBT's chief depreciation witness is a member of the Advisory Board.

other things, wideband digital services. Vanston also concludes that:

The potential savings in operation, administration, maintenance, and provisioning costs in the new technologies offer, plus the cornucopia of new services they can provide, easily justify the extra investment. Continued investment in the old technology, on the other hand, would leave the LECs at a grave disadvantage to competitors adopting new technology that is more efficient and offers more and better services.

Vanston, p. XVI. Curiously, however, SWBT made absolutely no adjustments to its cost factors to reflect the efficiency gains postulated by Vanston. This mismatch between unadjusted cost factors and higher depreciation rates does not reflect TELRIC principles and systematically overstates costs.

42. In addition, SWBT has failed to reflect forward-looking costs in its so-called "Forward Looking Common Costs" study.

SWBT calculated an alleged ratio of common costs to total TELRIC. However, its calculations are based on unadjusted 1995 data as reported to the FCC in its annual ARMIS report 43-03. SWBT's claims that it made forward-looking adjustments are simply not true. SWBT inflated the numerator of its computation by an inflation factor and it inflated the denominator by the same factor. Algebraically, this is the equivalent of multiplying

1995 information by one. This is hardly a forward-looking adjustment.

Finally, SWBT's building investment factor does not reflect TELRIC principles. SWBT cost studies add an allowance for building investment associated with other investments, like switching. Although an allowance may be appropriate, SWBT's approach to calculating that allowance is fundamentally flawed and produces overstated costs. In determining the building investment allowance, SWBT begins with the embedded building investment on its books of account. These building investments assume buildings that were originally designed and constructed many years ago to house technology of a variety, vintage, and size, unlike the technology used today. Current switching and circuit equipment requires much less building space than predecessor equipment. 10 Moreover, SWBT's existing buildings were constructed to provide space to accommodate full-time personnel. Today's environment is different, and many functions previously performed by the resident building staff are now performed by staff at centralized remote locations.

Older switching equipment, for example, required separate rooms, large racks, and large quantities of wire connectors. Today's equipment is largely self contained, is modularized, and provides multiple functions. Building space requirements today are similar to those required to house a large computer. I believe future building space requirements will be even lower.

I believe SWBT has streamlined its operations such that there are centralized locations housing spare equipment for maintenance purposes, which has also reduced the current and future requirements for building space.

- 44. Older, larger telecommunications components and operational procedures meant larger building requirements. Current building requirements are less than the historical requirements, and, consequently, should create lower cost requirements relative to other investments. By implicitly using the existing embedded central office building layout design to develop building factors, SWBT has inflated its building factors to reflect more building space than required for forward-looking telecommunications service.
- 45. In order for a cost estimate to conform to TELRIC principles, it must be based on forward-looking costs, must use the most efficient technologies, must use the total quantity of demand as the increment, and must reflect cost causation. As I have explained, SWBT's development of its cost factors for Building Investment does not meet any of these requirements.

IX. SWBT'S IMPOSITION OF CERTAIN ADDITIONAL CHARGES IS PATENTLY UNREASONABLE AND PROHIBITIVE

46. Even if SWBT's proposed prices for interconnection and unbundled elements were cost-based, in many instances SWBT's proposed imposition of other non-recurring and recurring charges on top of these prices, would violate the Act and make competitive entry uneconomical.

A. Assumption of Special Designed Services

47. SWBT's work times are overstated because they assume that all purchases of unbundled loops must be treated as special designed services. I am informed that SWBT's POTS circuits are maintained under the Local Maintenance Operation System ("LMOS"); that system interfaces with the Mechanized Loop Testing ("MLT") system to provide automated loop testing through the local switch. There is no technical reason why a local loop and switch port maintained under LMOS today could not be maintained under that system when purchased in combination as unbundled network elements. However, I am also informed that SWBT plans to transfer all circuits that are ordered as unbundled network elements to its Work Force Administration system ("WFA"), and that that system has ordinarily been used in the past for special designed circuits (such as PBX trunks). In order to test WFA

circuits, SWBT must use its Special Maintenance Access System ("SMAS") and Special Access Remote Testing System ("SARTS").

These non-automated systems allow an operator to sectionalize a circuit and locate the source of any problem. In order to use SMAS and SARTS for its local loops, SWBT will have to install a SMAS test point, requiring a physical disconnection of service over that loop.

48. As AT&T witnesses Messrs. Turner and Falcone explained in the Oklahoma arbitration, the use of the WFA and SMAS/SARTS systems may be appropriate for some unbundled network-element orders, where some more detailed design specification may be necessary to provide appropriate interconnection of SWBT's elements and a particular competitive entrant's facility. However, those systems are not necessary for all unbundled network-element orders, and they surely are not necessary when a competitive entrant orders in combination the loop and switch port that currently serve a SWBT customer who is converting to the competitive entrants unbundled network-based service.

Nonetheless, under its "designed circuit" approach SWBT would impose completely unnecessary recurring and non-recurring charges on competitive entrants.

B. Non-Recurring Charges

- Under SWBT's SGAT, an entrant that ordered a 2-wire 49. analog loop and analog line port in combination would incur a non-recurring charge of \$47.45 for the loop, \$80.50 for the switch port, plus a "new service" service order charge of \$60.00, a total of \$187.95. SGAT APPENDIX PRICING Schedule at 9. the Oklahoma Sprint interconnection agreement, this order would result in a non-recurring loop charge of \$47.45 for the loop, \$82.60 for the switch port, and an unspecified service order charge, for a total in excess of \$130.00. Sprint Agreement, Attachment 6, § 13.6.3 and Appendix Pricing UNE. To put these charges in perspective, I would note that SWBT's tariffed nonrecurring installation charges for basic residential service is \$44.45 for the first line and \$20.00 for a second line installed at the same time. 11 SWBT charges \$30.00 for a second line ordered for an existing account.
- 50. The conversion of the SWBT loop and switch port to unbundled network-elements service for the competitive entrant requires no activity on SWBT's part other than service order processing (and the installation of a SMAS test point, which is

I would also note that, at least in Oklahoma City, SWBT is currently offering a promotion in which it will waive the \$20.00 charge for a second line when basic residential services is first ordered.

required not by technical necessity but by SWBT's apparent business determination regarding administration of unbundled network elements). Thus, the only "one-time" expenses associated with provisioning a local loop/local switch combination order without feature changes should be service order processing expenses. As applied to orders that include the loop and switch, SWBT's non-recurring charges could not conceivably meet the cost-based standard of Section 252(d)(1). 12

C. <u>Licensing Fees</u>

51. I understand that SWBT claims that the intellectual property of a number of third-party vendors is (or may be) embedded in many of its network elements, and that AT&T must obtain a license or make some other arrangement with these vendors before AT&T may purchase access to those elements.

Based on my knowledge of SWBT's cost studies, and statements in its pleadings, I believe that SWBT includes in its prices for network elements the costs it incurs to obtain and use

In a fashion similiar to the development of SWBT's cost factors (<u>see supra</u> at ¶ 35), SWBT's Forward-Looking Common cost factor fully incorporates SWBT's service order processing costs into its proposed monthly recurring rates. Therefore, even the need for separate service order charges is questionable.

intellectual property embedded in those elements. The combined effect of SWBT's licensing requirements and unbundled network element prices is that competitive entrants must pay a portion of intellectual property costs incurred by SWBT, while receiving no benefit in return. In other words, in addition to making whatever payments are required by SWBT's vendors as a condition to providing service through its unbundled network elements, competitive entrants must also subsidize SWBT's intellectual property costs. That is unreasonable and discriminatory under any reading of the Act.

X. THE RATES AND CHARGES PROPOSED BY SWBT ARE WELL IN EXCESS OF COMPARABLE RATES AND CHARGES

52. In the preceding sections of my affidavit, I have attempted to show why I believe that, contrary to Mr. Moore's assertions, SWBT's rates and charges cannot be justified on a cost basis. Moreover, based on several comparable <u>rate</u> benchmarks, I believe that I can also establish that SWBT's rates are clearly out of line.

See Southwestern Bell's Response to AT&T's Motion to Stay and Refer to the FCC, p. 8, SWBT v. AT&T Communications of the Southwest, Inc., Civ. Act. No. A 97 CA 132 SS (U.S.D.C. W.D. Tex., filed March 31, 1997) (unbundled network element prices were set based on "the costs that Southwestern Bell pays for its own uses").

53. For example, the prices produced by several of SWBT's Oklahoma studies are well above the range of the proxy ceilings adopted by the Commission in its Final Report and Order. Several comparisons are shown in the table below:

UNE	FCC Proxy	Proposed SWBT Charge
Local Loop	\$17.63	\$20.70-\$49.30
Local Switching	\$0.002-\$0.004	\$0.006-\$0.008
Tandem Switching	\$0.0015	\$0.0028
Analog Port	\$1.10-\$2.00	\$3.00

SWBT's charges for these elements are roughly <u>twice</u> the proxies, which are intended to be <u>maximum</u> price levels.

54. Similarly, as the Arbitration Report reflects,
Mr. Flappan, an AT&T witness in the arbitration proceeding,
testified to the gross differences in the non-recurring charges
proposed by SWBT in Oklahoma and those proposed in the Texas
arbitration proceeding:

For example, for the basic rate interface 2-wire, AT&T proposed a nonrecurring rate which came from Texas which was \$39.30. In Oklahoma, SWBT proposed a \$118 rate for basic interface 2-wire. Another example was the additional basic rate interface 2-wire where the Texas rate was \$6.05 as compared to the Oklahoma proposed rate of \$61.85.

Arbitrator's Report at 19. Although it is not implausible that different costs will be incurred in different states, I cannot conceive of anything other than bias or error that would justify differences of these magnitudes between contiguous states.

CONCLUSION

55. For all of the reasons I have given, I believe that SWBT has barely begun to justify the prices it would charge to AT&T and other entrants into the local exchange market. Still more seriously, SWBT's prices are significantly inflated and will significantly deter competitive entry. Until such time as this situation is rectified, SWBT should not be allowed to compete in the interexchange market.

I declare under ponalty of perjury that the foregoing is true and accurate to the best of my knowledge and belief.

Executed on April 29, 1997.

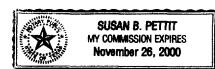
Daniel P. Rhinehart

SUBSCRIBED AND SWORN TO BEFORE ME this 29th day of April 1997.

Notary Public

My Commission Expires:

nov. 24, 2000



ATTACHMENT 1

PREVIOUS TESTIMONY OF DANIEL P. RHINEHART

Date Field	State	Proceeding Number	Subjects Addressed
3/97	Kansas	Docket 97-SCCC-149- GIT	Generic Cost Docket for Cost Studies of SWBT
1/97	Arkansas	Docket No., 96-395-U	Arbitration Cost Studies of SWBT - Arkansas
1/97	Kansas	Docket 97-AT&T- 290-ARB	Arbitration Cost Studies of SWBT - Kansas
10/96	Texas	Docket 16300	Arbitration Cost Studies of GTE - Texas
10/96	Missouri	Case No. TO-97-63	Arbitration Cost Studies of GTE - Missouri
9/96	Oklahoma	Cause 960000242	Arbitration Cost Studies of SWBT - Oklahoma
10/96	Missouri	Case No. TO-97-40	Arbitration Cost Studies of SWBT - Missouri
9/96	Oklahoma	Cause 960000218	Arbitration Cost Studies of SWBT - Oklahoma
9/96	Texas	Docket 16226	Arbitration Cost Studies of SWBT - Texas
6/96 7/96	Kansas	190,492-U	Universal Service Fund, Alternative Regulation, Imputation
1/96	Texas	Docket 14659	Costs of SWBT and GTE loop facilities
1/96	Texas	Docket 14658	Resale of SWBT and GTE services under PURA
9/95	California	A.95-02-011 A.95-05-018	Uniform System of Accounts Rewrite rate adjustments
6/95	Missouri	Case TR-95-241	SWBT Local Plus service offering